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**WO 01/93817 A1**

(54) Title: **COSMETIC COMPOSITIONS FOR THE CARE OF SCALP AND HAIR**

(57) Abstract: Cosmetic composition for removing deposits of impurities on scalp and hair comprising some emollient substances, a granular substance adapted to mechanically remove said deposits, and a chelating agent having the task to facilitate the disgregation thereof. The composition can be used to prevent the formation of said deposits and is therefore an important means for maintaining the fair hygiene of hair and scalp, an essential condition for their good health.

"COSMETIC COMPOSITIONS FOR THE CARE OF SCALP AND HAIR"

The present invention relates to cosmetic compositions for the care of hair, and in particular to a composition allowing to remove the deposits of impurities often arising on scalp and hair.

5        It is known that deposits of impurities consisting of variously originating substance such as furfuraceous scales, degradation products of sebum and sweat, dust and various inorganic substances, such as calcium, deriving from water used in normal cleaning, may grow on hair and scalp. In particular the last named inorganic item favors the aggregation of all these substances, making thus the  
10        resulting deposits specially hard and sticking to hair and scalp. In addition, just because of the presence of calcium said deposits are insoluble in water and cannot be disgregated and cleared away by means of usual detergents.

      The production of such deposits results immediately in a worsening of the aesthetic look of hair that becomes shortly rough and opaque. A more serious  
15        consequence resides in that said deposits clog the pores and hair follicles, thus preventing the cutaneous respiration and causing the weakening and in the long run the loss of hair.

      It is therefore an object of the present invention to provide a product able to remove said deposits from hair and scalp thus eliminating the cause of their  
20        weakening. Said object is attained by means of a cosmetic composition in form of a creamy emulsion whose principal features are specified in claim 1 whereas other features are specified in the subsequent claims. The present invention relates also to a composition whose features are specified in claim 7 and subsequent claims.

      - A first advantage of the cosmetic composition according to the present  
25        invention resides in that, thanks to the calcium chelating agents and granular substances therein contained, it can be used in eliminating one of the reasons of hair loss and therefore in fighting the baldness. According to a particular embodiment, the composition in conformity with the present invention comprises also a compound having a  
30        keratolytic effect and able to favor the disgregating action carried out on the noxious deposits.

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- Another advantage of the cosmetic composition according to the present invention resides in that, by aiding the separation and removal of dead cells, it has also a marked anti-dandruff action.
- A further advantage of the cosmetic composition according to the present invention resides in that it contains also some emollient substances which contribute to improve the aesthetic look of hair by making it bulky, strong and glossy, and assist in its combing.
- A particular advantage of the composition according to the present invention resides in that, thanks to the antibacterial compounds contained therein, it prevents the degradation of sebum and sweat and avoid the formation of said deposits.

Further advantages and features of the cosmetic compositions according to the present invention will appear to those skilled in the art from the following detailed description of an embodiment thereof.

The cosmetic composition according to the present invention consists of a creamy emulsion of conventional type further comprising a granular substance and a chelating agent.

Such a granular substance is adapted to allow for removal of noxious deposits formed on hair and scalp by applying through the fingers on it a delicate massage. Granular substances usable in the composition according to the present invention are all the substances conventionally used in products for the cleaning of skin, for example microcrystalline silica, calcium carbonate, tin oxide, magnesium stearate, synthetic resins, microcrystalline cellulose, Gransilk™ and the like.

The chelating agent has otherwise the task to complex the calcium ions by separating them from said noxious deposits so as to further aiding their disgregation. Various chelating agents known in the art may be added in the composition according to the present invention, such as for instance ethylenediaminetetraacetic acid, sodium heptagluconate, etidronic acid. Preferably, ethylenediaminetetraacetic acid or its salt is used; its amount by weight is preferably between 0,01% and 0,1% of the composition according to the

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present invention.

According to a particular aspect, the composition in conformity with the present invention comprises also a compound having a keratolytic action that affects and dissolves the epidermis particles enclosed in said noxious deposits, thus making more effective the disaggregating action on the latter. Such a keratolytic compound is preferably salicylic acid, and its amount by weight in the composition according to the present invention is between 0,001% and 0,05%.

According to a particular embodiment, the composition in conformity with this application comprises also an antibacterial compound having the task to prevent the decomposition of sebum and sweat, so as to oppose the formation of noxious deposits. Said antibacterial compound is preferably chlorexidine, and its amount by weight in the composition is between 0,01% and 1%.

Thanks to this last ingredient, the composition according to said embodiment of the invention is able to prevent the formation of noxious deposits on scalp and hair, which formation, as stated above, is linked to the decomposing bacterial activity on some organic residues. The composition can therefore be also used to preserve the proper bacterial flora of the scalp, which is essential to keep safe the good health of hair too.

A non limiting example of a preparation according to the invention is as follows.

#### EXAMPLE

In a founding furnace the following ingredients are heated to 65°C until a clear mixture is obtained:

|    |                                   |    |      |
|----|-----------------------------------|----|------|
|    | Cetylstearyl alcohol              | kg | 56   |
| 25 | Cetyl alcohol                     | "  | 30   |
|    | Cetylstearyl ether polyethoxylate | "  | 20   |
|    | Paraffin oil                      | "  | 20   |
|    | Lanolin                           | "  | 10   |
|    | Laurylmethicone                   | "  | 20   |
| 30 | Methylparaben                     | "  | 2,0. |

In an emulgator are then heated to 70°C:

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|   |                       |                 |
|---|-----------------------|-----------------|
|   | Demineralised water   | q.s. to 1000 kg |
|   | EDTA                  | kg 2            |
|   | Sodium heptagluconate | " 2             |
|   | Etidronic acid        | " 1,5           |
| 5 | Salicylic acid        | " 0,2           |

Both phases thus obtained are then homogenized for 15-20 minutes and to the resulting emulsion there are subsequently added:

|    |                            |      |
|----|----------------------------|------|
|    | Gransilk™                  | kg 3 |
|    | Maize starch               | " 20 |
| 10 | Microcrystalline cellulose | " 20 |

A de-aeration and homogenization step is then effected until a homogeneous mass is obtained. The mass is afterwards allowed to cool down to 40°C, and under swift agitation are added:

|    |                                 |       |
|----|---------------------------------|-------|
|    | Cetyltrimethylammonium chloride | kg 30 |
| 15 | Chlorexidine bichlorhydrate     | " 1   |
|    | Perfume                         | q.s.  |

A gentle agitation under vacuum is continued, and cooling down to the ambient temperature is carried out by setting the pH at 4-4,5 with possible regulation by means of lactic or citric acid.

20 The cosmetic composition thus obtained is a creamy emulsion to be used as a "mask" by gently massaging it on wet hair before or after a shampoo, allowing it to act for 3-10 minutes and rinsing then with water.

Although a particular embodiment of the present invention has been described, possible changes and/or additions may be introduced by those skilled in  
25 the art, yet remaining in the scope of the invention.

## CLAIMS

1. A cosmetic composition comprising emollient substances for removing from scalp and hair the deposits of impurities, characterized in that the composition further comprises a granular substance and a calcium chelating agent.
2. The cosmetic composition according to claim 1, characterized in that said granular substance is chosen from the group formed by microcrystalline silica, calcium carbonate, zinc oxide, magnesium stearate, microcrystalline cellulose, synthetic resins.
3. The cosmetic composition according to claim 1, characterized in that said calcium chelating agent is chosen from the group formed by sodium heptagluconate, etidronic acid, and ethylenediaminetetraacetic acid or its salt.
4. The cosmetic composition according to claim 3, characterized in that the amount by weight of ethylenediaminetetraacetic acid in the composition is comprised between 0,01% and 0,1%.
5. The cosmetic composition according to claim 1, characterized in that it comprises further a keratolytic compound.
6. The cosmetic composition according to the previous claim, characterized in that said keratolytic compound is salicylic acid and its amount by weight in the composition is comprised between 0,001% and 0,05%.
7. The cosmetic composition according to claim 1, characterized in that it comprises further an antibacterial compound.
8. The cosmetic composition according to the previous claim, characterized in that said antibacterial compound is chlorhexidine and its amount by weight in the composition is comprised between 0,01% and 1%.

# INTERNATIONAL SEARCH REPORT

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**A. CLASSIFICATION OF SUBJECT MATTER**  
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**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

| Category * | Citation of document, with indication, where appropriate, of the relevant passages    | Relevant to claim No. |
|------------|---|-----------------------|
| X          | US 5 922 359 A (YOUSSEFYEH RENA T)<br>13 July 1999 (1999-07-13)<br>the whole document | 1-8                   |
| X          | WO 99 12519 A (PROCTER & GAMBLE)<br>18 March 1999 (1999-03-18)<br>the whole document  | 1-8                   |

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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